

## TEACHING THE FUNDAMENTALS OF MARKSMANSHIP

There is no secret to teaching rifle marksmanship. The key is to practice regularly, practice properly, and have an understanding of basic principles of marksmanship. Teaching the fundamentals of rifle marksmanship is essentially the same as handgun marksmanship as the principles are the same:

- ! Grip
- ! Stance
- ! Breathing
- ! Sight Alignment
- ! Sight Picture
- ! Trigger Manipulation – the most important fundamental to master and teach
- ! Follow-Through

**Position of Firing Hand and Elbow** - The firing hand will be in a firm firing grip on the grip of the rifle, with the strong thumb or finger on the safety. To enhance finding the pocket, the strong side elbow may be held horizontal, but this is a MARKSMANSHIP technique and has some drawbacks for the tactical patrol rifle shooter. Once the pocket is generally located the shooter should pull the arms down and slightly roll the shoulders forward.

**Position of Support Hand and Elbow** - The support hand must be on the handguard with a firm grip. The elbow is straight down from the hand. The more the elbow points out towards a 9 o'clock position the greater the likelihood that the rifle will be displaced laterally to the left during recoil (instead of straight up and back). This will cause reduced accuracy and/or greater recovery time.

**Buttstock in Pocket of Shoulder** - Find the pocket of the shoulder by using the following drill: Place the support hand thumb on the strong side collarbone. Raise the strong hand straight above the head. Place the support hand fingertips in the strong side armpit and squeeze. The muscle group in the support hand is a built-in recoil pad. The pocket formed by the medial side of this muscle is the proper location of the butt of any shoulder-fired weapon. If the butt-stock is too low or below the pocket, the head will have to be lowered to see the front sight through the rear sight. Therefore, a portion of the butt plate will usually be above the shoulder line; with an AR-style rifle, the majority of the butt plate may be above the shoulder line. This enhances the ability of bringing the sights up to the eyes rather lowering the head down to the line of sight, and the minimal recoil of the AR allows the control to accomplish this task.

**Position of Head and Proper Cheek/Stock Weld** - The head must be kept upright during all phases of manipulation or fight. Whether searching for or engaging a target, the head must maintain an upright alignment. If the head is tilted, (especially during low light shooting), balance is impaired and the shooter must depend more on visual cues to maintain stability. This distracts from the task of

target identification. The butt-stock must be pushed up into the cheek to “weld” the head onto the stock. ***Bring the sights up to the eyes - don't take the eyes to the sights.*** “Weld” to the same spot each time!

**Position of Support-side Knee** - The feet should be flat on the ground. Lean into the gun in order to counter balance the expected recoil.

**Overall Stance and Center of Gravity** - Both feet must be flat on the ground about shoulder-width apart. The support side foot should be forward of the strong side leg and the knee should be bent so that the center of gravity is moved forward. The center of gravity should be shifted forward to increase recoil control and a strong shooting platform. There is a tendency to rise up onto the ball of the strong side foot or lunge forward rather than lean forward. The shoulders should be rolled forward to increase the recoil control over the natural tendency of that recoil to push the firing shoulder back which will, in turn, cause the shooter to point the muzzle higher and more to the outside with each recoil impulse. This unwanted muzzle movement will slow recovery time and delay any necessary follow-up shots. There should be a straight line from the weapon shoulder, through the hip, to the weapon side foot. After the shooter depresses the muzzle to the guard, the stance can be modified so that the shooter stands more upright.

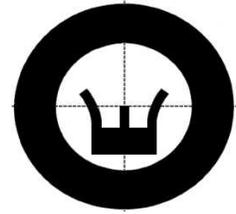
**Natural Point of Aim** - This involves adjusting the body to bring the rifle in line with the desired aiming point without fight your own muscles. When first assuming a firing position, aim the rifle at the target. Close your eyes, take three deep breaths, and then open your eyes. Adjust your body - not the rifle - to line up your sights exactly as you want them on the target. By doing this, the marksman is relying on bone structure and not muscle to hold the firing position. Muscles will fatigue or twitch over time under the weight of the rifle. Bone structure is capable of providing constant support, and allows the marksman to relax.

**Instructor Note:** Shooters should practice dry mounting and simulated loading. Place the rifle into Condition 3 (Safe), and in a proper method of carry. Shooters should practice putting the rifle into a proper “pointed in” shoulder mount. By learning to properly mount and manipulate the rifle the shooter will reduce the possibility of injury, increase accuracy, and obtain a higher level of confidence in deploying the rifle. Remember to scan.

**Breath Control** - Improper breathing techniques can affect accuracy. The preferred method is to fire during the “natural respiratory pause.” Breathe naturally and prepare to shoot after you exhale. When your breathing is at a state of natural pause and your body is still at the end of exhaling, press the trigger. The shot should be fired within 6 to 8 seconds and will allow you maximum accuracy. Breath control becomes critical as distance increases, but for rapid close range engagements, just keep breathing enough to keep your oxygen level up so that you can continue to rapidly press the trigger as you recognize a sight picture that is “good enough” to ensure that you make the hits that you need to control the situation.

## SIGHTS AND SIGHT PICTURE

**Sight alignment** is the relationship of the front and rear sights. It is a matter of getting the front sight in the correct position in relation to the rear sight aperture. The top of the front sight post should be centered in the field of view of the rear aperture; any protective front sight wings have nothing to do with this sighting arrangement



**Sight picture** is what you see through the sights. For the patrol rifle, the correct sight picture should have the top of the front sight post as your point of impact on target at the sight-in range. This should be with the sights held in proper alignment. Your rear aperture will be blurry and the target will be slightly out of focus. Your front sight should be in sharp focus.



**Ghost Ring sights** - the fastest of the iron sights. The term “ghost ring” implies that the rear aperture is greatly enlarged, or has a much larger hole to view through. The shooter’s eye should naturally center the top of the front sight in the more vague “ghost Ring” and the top of the front sight is placed on the desired point of impact. The benefits of the enlarged “Ghost Ring” aperture is that it allows more light to enter the pupil, enabling use of the rifle in dimmer light situations, and also allows for a greater field of view of the target to assist in the firing decision. The larger of the two apertures, if so equipped, should be thought of as your rifle’s default cruiser carry sight; used for rapid close quarters shooting, night shooting, indoors, or shooting on the move. The benefits of a small aperture, not accounting for any elevation change, is more precision, and better visual acuity for many older eyes.

**Flash sight picture** - The shooter relies on the front sight to make a fast shot at close range. Normally, a shooter doesn’t fire until the front sight and rear sights are aligned and the sights are on target. When using flash sight picture, the shooter fires when the front sight is on target and generally aligned with the rear sight, generally, slightly above the rear sight. This reduces the amount of time needed to complete the shot and is totally adequate at close range. While this type of sight picture will shoot high, the mechanical off-set of the AR sight will usually compensate for this at close range engagements. Use of a consistent stock weld, in conjunction with the flash sight picture ensures a fast, accurate shot. We use this to make subsequent shots, where the use of the rear sight would delay the follow-up shot.

**Aiming** is simply a matter of pointing the rifle in the direction of the target until the desired sight picture is obtained while maintaining correct sight alignment. Your sight picture should be the same from shot to shot. Aiming correctly is a matter of getting four things lined up: the target, the front sight, the rear sight, and your eye.

## TRIGGER CONTROL

**Single Action Trigger Manipulation** – This trigger manipulation is a consistent trigger weight and length of travel. The trigger finger will be placed on the trigger in such a manner that it will facilitate a trigger press that is smooth and travels straight to the rear.

**Press** – The shooter must insure that the trigger is pressed directly and steadily to the rear of the rifle, with no sideways application of force. It is as if the shooter is pulling the front sight through the rear sight by straight back pressure on the trigger.

**Surprise-Break** – The most important aspect of trigger control is the surprise break of the shot. The hammer should fall as a response to pressure added to the trigger, not to a conscious decision to make the weapon fire at a specific moment in time. The shooter must not know the instant of ignition. This helps the shooter to pay attention to the sight picture, and prevents the shooter from anticipating the recoil of the rifle (which degrades accuracy). If the shooter attempts to “catch” a good sight picture by snapping the trigger as the sights move past the aiming point, the shot will be inaccurate. This is referred to as a pre-ignition push, or a “Kodak moment,” and usually results in a shot low on or below the target. The fall of the hammer must be a surprise whether the shot is to be taken in 10 seconds or ½ of a second. A “**compressed surprise break**” refers to a shortened time span between beginning to press the trigger and the hammer fall.

## TRIGGER FINGER LOCATION

The trigger finger will be placed in one of only three places when manipulating the rifle:

1. Indexed on the side of the receiver, above the trigger, when no shots are being fired.
2. On the trigger when the sights are on the target and the decision has been made to fire.
3. On the magazine release button, only long enough to release the magazine.

## TRIGGER FINGER CONTACT

The officer only goes “on threat” once the decision has been made to fire. Therefore, once on threat, the safety is off and the finger is on the trigger, pressing it to the rear in order to fire the rifle. When firing, the finger maintains contact with the trigger throughout the firing sequence and during follow through to trigger re-set. Do not jump off the trigger after each shot in a firing sequence! Maintaining contact allows for faster, more accurate follow-up shots with minimum

finger and muzzle movement. If it's ok to shoot the suspect, it's ok to keep your finger on the trigger before, during, and after each shot. When you stop firing, return to index and flip the safety lever back on.

## SYMPATHETIC CONTRACTIONS AND THE TRIGGER FINGER

This is the contraction of the muscles of the hand or fingers under high-stress situations. Sympathetic Contractions can occur as a result of three uncontrollable distinct stimuli:

- ! Startle Response
- ! Postural Instability
- ! Overflow Effect

**Startle Response** – When you are startled by a loud noise, or a sudden appearance of someone unexpected, it immediately shocks or disrupts the nervous system causing you to flinch, clutch and jump.

**Postural Instability** – A term for simply losing your balance. If there is something in your hand (Gun) or near your hand when you lose your balance, you will clutch it or grab for it.

**Overflow or Opposite-side Effect** – This is the relationship between your muscles and nerves under high stress. If you exert maximum force with one hand, the nerves of the opposite hand will cause that hand to exert up to 25% of the force at the same time. The more stress, the more force exerted.

## CONSEQUENCES OF THE THREE SYMPATHETIC CONTRACTIONS

The strength that can be exerted by involuntary muscular contractions in one of the above three circumstances may be enough to cause an Unintentional Discharge. If your trigger finger is not indexed properly and your safety is not “ON”, getting **startled** may result in a flinch or clutch that may cause an Unintentional Discharge. If your trigger finger is not indexed properly and your safety is not “ON”, and you lose your **balance** the resulting clutch or grab may cause an Unintentional Discharge. Under stress the average adult male can **exert** 100 pounds of pressure with the strong hand, and may exert up to 25% of his hand strength to his support hand, or vice versa. If your trigger finger is not indexed and your safety is not “ON”, grabbing a suspect or a door knob with your support hand may cause an Unintentional Discharge. The legal consequences can be devastating to the involved officer and his agency if the muzzle was not pointed in a safe direction. Training will not prevent involuntary muscle contractions from occurring, but it can prevent Unintentional Discharges. Training officers to keep their trigger fingers properly indexed outside and above the trigger guard until they are on target and have decided to fire will help prevent Unintentional Discharges from happening! Training officers to keep their patrol rifle safety engaged until the rifle needs to be fired will **almost eliminate** Unintentional Discharges from happening with a patrol rifle.

**Follow Through** - *The continued application of all fundamentals until the bullet has left the barrel.* Many shooters, especially those in training, will fire the rifle, allow it to go into recoil, and either immediately look for the hit on the target, sling it, or lower the rifle to guard or lower, letting the muzzle cover their feet. It is common for the shooter to move the rifle while it is being fired, causing an inaccurate shot. A complete follow-through consists of the front sight being the last thing in sharp focus when the rifle discharges, and the first thing back into the shooter's focus immediately after the shot is fired and before the next shot. This will ensure proper follow-through. The trigger should be reset by the time the rifle returns from the recoil. In other words, for every shot taken, the shooter recovers from recoil and lines up for the next shot, finger on the reset trigger, whether there is an intention of taking that shot or not.

## **Shot Psychology of the Patrol Rifle**

An article by Joel Turner

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Shot Psychology is a term used to describe the mental processes involved in executing a shot from a firearm. Specifically, it is a term that deals with the mental processes used in the two very different tasks of aiming and pressing the trigger on a firearm. For the purpose of this text, we will focus on this concept of shot psychology and its use with the patrol rifle.

### **Shot Separation**

To effectively master the shot sequence, the shot process itself must be broken into two separate tasks, aiming and pressing the trigger. The aiming portion of the shot is done with subconscious thought processes while the pressing of the trigger should be accomplished using conscious thought processes. The subconscious has the ability to control a multitude of different motor movements and focal points simultaneously. In other words, the subconscious is what controls movements that have become automatic, such as, walking, talking, eye movements, grip, stance, breathing, etc. Basically, the subconscious controls the movements and focal points that do not have to be directly thought about to be executed.

The conscious mind only has the ability to control one thing at a time. However, the conscious mind can override and take over any movement or focal point that was previously controlled by automatic, subconscious thought processes. If one consciously thinks about any movement, that phenomenon is essentially what we call concentration. We must use the conscious mind to press the trigger. Only when we consciously think about the trigger press, can we override the subconscious, automatic movements of recoil anticipation.

### **Subconscious Aiming**

Let us first talk about subconscious aiming with the use of optics on a patrol rifle. Human eyes in conjunction with the subconscious mind have the ability to find the center of whatever shape they are looking at. If this statement is not trusted, simply ask someone to point their finger at a doorway, window, or any other large shape without a central focal point. If left unmanipulated, the person will most likely point to the center of the shape without being told to do so. It is a self centering device that allows us to get symmetry. It is this centering ability that must be utilized when looking through optics or iron sights on the patrol rifle.

It is this centering mechanism that will also hold the reticle in the middle of the target. Have your operator put the reticle on the target and watch what it does. Just like the person that found the center of the doorway with their finger, your operator will find center mass without conscious thought. Because you look to center mass, the reticle will go to center mass. Once the reticle goes to the focal point of the eyes (center mass), it will rest there but still be in motion. If the operator simply watches the exact spot that they wish to hit, it will act as a subconscious anchor point for the mind. To observe this phenomenon, have the operator watch the movement pattern of the reticle on the target while still watching the spot they want to hit. Every operator will have a different movement pattern based on biomechanics, but there will always be one constant. No matter which way the reticle moves away from the target, its next movement is always back towards the center of the spot that is being watched. The use of the anchor point gives the reticle a specific place to come back to. If the operator watches the reticle, there is no spot for the reticle to return to. When the reticle is watched instead of the anchor point, reticle movement increases greatly and the operator will be consciously thinking about the movement of the reticle. If conscious thought goes into the movement of the reticle, muscle movements become involved in trying to steady the movement.

With all of that said, subconscious aiming is nothing more than watching the spot you want to hit and allowing the reticle to follow its natural movement pattern. The centering device of the subconscious will keep the reticle in the middle if left unmanipulated by muscles and conscious thought. Tell your operators to, "Watch the spot, not the dot."

The use of iron sights on the rifle is very similar but the sights and the target are no longer on the same focal plane, as they are with optics. Even though the front sight is clear, the peep sight is slightly blurred, and the target is slightly blurred, the centering device still has the ability to hold this system in the middle. The front sight will center itself in the peep sight, unless conscious thought is introduced to hold the front sight lower or higher in the ring. The front sight will find the center of the blurred target image with no difficulty. With iron sights, if the operator focuses on the target, the centering device will lose focus on the sights and not have anything to put on the anchor point. The operator using iron sights must simply accept that their anchor point will be slightly blurred, and the sight that they use to put on the anchor point must be in focus. Again, if this entire system is watched, it will stay in the middle.

### **Conscious Trigger Press**

Now that we know our sights will stay in the middle if we continue to simply watch them, it is time to perform the other task that will make the rifle fire, the trigger press. The human mind has a natural reaction for protecting the body if it believes impact is imminent. Just as your body jerks when you get startled by someone grabbing you in a dark room, your body has the same reaction to the noise, and recoil of a firearm. This protection system is in the subconscious. You do not have to consciously think about bracing for recoil, the subconscious takes care of that for us. This protection system is the essence of recoil anticipation. If left to do its job, the subconscious will brace the body for recoil every shot. Because the subconscious can control multiple things at one time, it will automatically time the trigger jerk and the muscle tensing used in recoil bracing. The mind does not like to be startled so it will put this multitude of muscle

movements together to better mitigate the effects of recoil on the body. So how do we override this automatic system of recoil anticipation? We must use our conscious mind to control the trigger press. It is imperative for the instructor to remember that the conscious mind can only be in one place at a time. We have to direct the conscious mind to a specific muscle group so that it can concentrate and perform that task with no distractions. The easiest way we have found to focus the conscious mind into a muscle group is through the use of Neurolinguistic Programming, or in more common terms, Word Association.

There seems to be a direct link between speech and the conscious mind. The words that you verbalize as an instructor are the places that your student's conscious mind will go. With that said, we as instructors must be very careful with the words that we choose. The instructor telling the shooter, "Front sight, Front sight," will not help the shooter with the trigger press because the shooter's conscious mind will be enveloped in the movement of the front sight. If the shooter says an action word such as, "Kick," the action of kicking will be processed and their conscious mind will then be enveloped into the muscle group required for kicking. Just ask a shooter to say, "Kick," and tell them to do the first thing that comes to mind. Because the word, "Kick," has already been associated with a leg movement through life experience, the shooter will most likely move their leg in a kicking motion.

Neurolinguistic Programming or Word Association can be seen in its purest form with a very simple drill. Stand in front of a person, hold out your hand and point your index finger at the person. Ask the other person to "Pull" your finger. Because "Pull" has already been programmed as an entire hand and shoulder movement, the person will probably grasp your finger with their entire hand and use shoulder muscles to "Pull" your finger.



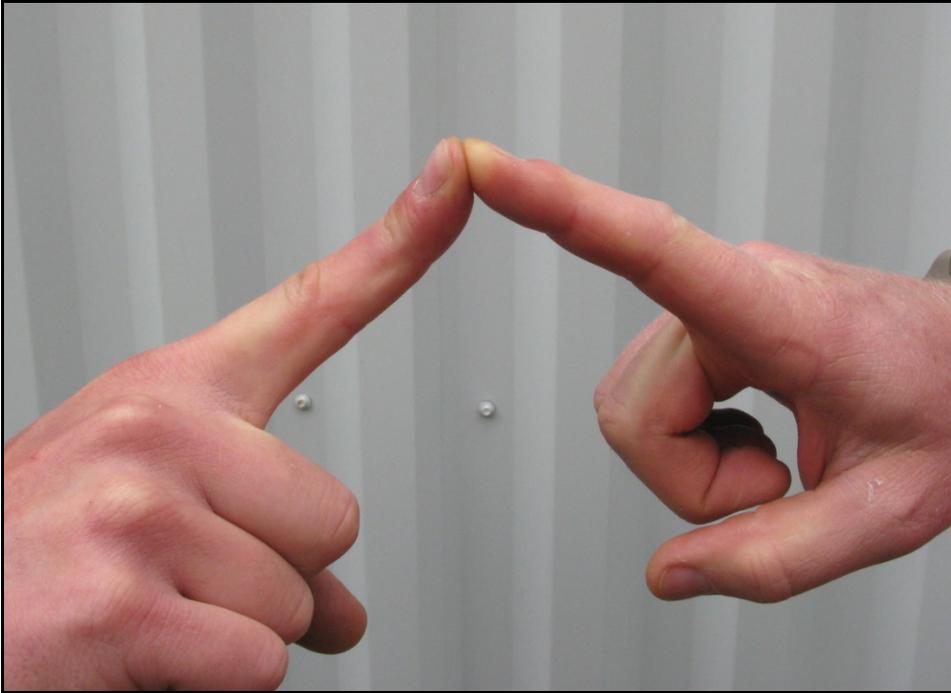
*Instructor asks student, "Pull my finger"*

Now ask that person to “Squeeze” your finger. The person will again grasp your finger with most of their hand and contract the forearm muscles required to “Squeeze” your finger.



*Instructor says, “Squeeze my finger”*

Ask the person to let go with their “Squeeze,” and then ask them to “Press” your finger. Because we have associated “Press” with the common action of pressing buttons, the person will most likely extend their index finger and touch it against the tip of your finger. Hence the reason we base our key phrase on the word “Press” and its association to single finger manipulation.



*The instructor then says, “Now Press my finger”*

Through the use of specific words, we are now able to use the word association programs that are already set in place through life experience. When used properly, these existing programs will allow us to focus the concentration of the conscious mind into the specific muscle group used to press the trigger.

If the shooter gets their sights onto the target and allows the subconscious to center them, and then they say the word, “Press,” their tactile feel of the trigger will become much more acute. We want the trigger press to be smooth to the rear until the gun fires. Because the single word, “Press,” has a finite end to it, the word by itself is not the best option for the desired smooth movement. It has been discovered that the phrase of, “Keep Pressing,” said over and over in a revolving rhythm gives the conscious mind much more guidance on the smooth rearward movement of the trigger finger. As an instructor, you will be able to move your shooter’s finger in whatever speed you desire by manipulating the speed at which you say the rhythm. Again, the key phrase of, “Keep pressing, Keep pressing, Keep pressing. ....,” is said in a smooth rhythm to have direct control of the trigger finger movement. Once you have guided your shooter’s trigger finger through the use of this mantra, have them repeat the mantra to you as they press the trigger on a live round. Most often, you can fix any recoil anticipation by fixing the shooter’s speech pattern. You may hear the key phrase said too slowly, or frantically, neither of which is desirable. An important point to remember is the finger will move in the exact rhythm of the key phrase. Once the shooter is achieving surprise breaks on the trigger, have them say the key phrase to themselves during several shots.



*We begin with the instructor calling out the mantra, then the student takes over...*

If problems persist, ask the shooter what they are thinking about. If the answer does not involve the key phrase, their conscious mind has slipped into some other area. As soon as the conscious mind becomes enveloped into other thought processes, the subconscious is allowed to follow its plan of recoil anticipation and trigger jerking. Remember, if allowed, the subconscious will brace the body for recoil every time the rifle is fired.

When a slow, smooth trigger press is not required such as in multiple shot strings or CQB environments, the phrase can be shortened back to the word, “Press,” said in the rhythm of the desired rate of fire. For example, if the shooter needed to fire five rounds in 3 seconds, they would put their sights or reticle on the target and simply recite, “Press, press, press, press, press,” in the rhythm they wanted to fire the rounds for the allotted time.

The subconscious will return the sight system to the target without the shooter having to manipulate it. The rhythm of the words will create the same time interval between shots and allow the sights to fall to the same place time and again. The speed of the rhythm will dictate the speed of the shot string. So, if the instructor is not hearing the rhythm in the firing sequence, have the shooter recite their rhythm of speech. Most often, the speech pattern of the shooter will have no rhythm to it. Correct the speech and you will correct the rhythm of fire.

### **Trigger Reset**

The resetting of the trigger after a round has fired out of the patrol rifle seems to be a simple task. After pressing through the trigger with the use of shot separation, the shooter should simply relax the trigger finger until the trigger resets and then start another shot sequence. The trigger has to be reset before another round gets fired so why would a shooter want to perform that task slowly? As instructors, we see this slow, methodical reset of the trigger in a vast number of shooters. Many shooters will fire a round, then acquire another sight picture, then reset the trigger. This is a very detrimental cycle, but it is a cycle that the subconscious mind loves to perform.

One must know that the subconscious is always looking for a timing mechanism, something to give it a “Go” signal to complete the recoil anticipation process. If the shooter has aimed before the trigger is reset, then they are allowing the reset to be part of the trigger press. We will see a slow reset, and then when the click of the reset is felt or heard, the subconscious will use that

click as a “Go” signal to jerk the trigger to the rear. We especially see this phenomenon become detrimental in multiple shot strings. The shooter will get into a rhythm of resetting slow and pressing quickly. The mind as a whole likes this cycle because there is no consequence to the click of the reset. The mind has no problem making this movement slow, smooth, and methodical because there is no startling noise and recoil of the gun when the click happens. It is much like the concept that no shooter has a problem pressing the trigger on a rifle when they know it is not loaded.

When this cycle is seen, the instructor can utilize word association to get the proper rhythm of pressing smoothly and resetting quickly into the shooter’s mind. We do not want to make the reset a conscious movement but to get the rhythm set again we will have to make it a conscious relaxation. When the shooter fires a round, the instructor should instantly say, “Reset,” or whatever word you choose to make the trigger finger relax. In the past it has taken me around 10 rounds for this word association to sink in. Because the desired motion is actually a relaxation with no consequence, however, the subconscious seems to pick it up very readily.

Shooters need to stop making the reset part of the shot that is about to be fired. The reset is part of the follow through of the shot that just went off. Slow resets do nothing for accuracy and they open the door for the subconscious to acquire a timing mechanism. The shooter should never be aiming and resetting at the same time. The trigger should be reset by the time the rifle returns from recoil. The shooter should use the key phrase of, “Keep pressing, Keep pressing, Keep pressing,” until the shot fires, relax the finger to reset the trigger, then acquire another sight picture and start the key phrase again.

### **Summary**

Rifles are much more forgiving than handguns when it comes to the trigger press. But when zeroing, or performing precision work with the patrol rifle, the shot must be separated. Allow the subconscious to aim and control all automatic movements, but beware its plan for recoil anticipation. Use the concentration of the conscious mind to override the system of recoil bracing. Proper word association will give the conscious mind the guidance it needs to perform the smooth rearward movement of the trigger finger. As an instructor, you will have given your shooter a tool to become self sufficient on the trigger press. You have not taught them a feel or a vision that they must remember, you have shown them the aiming prowess of the subconscious mind and you have given them a simple phrase to unlock their shooting mind.

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## TACTICAL TARGET ACQUISITION

The techniques needed to quickly observe, identify, and engage a threat (or multiple threats) in a real live dynamic shooting situation are significantly different than those used to shoot a tight group in a marksmanship training drill at a stationary bull's eye target.

Tactical shooters must train themselves to **lead with their eyes**. Obviously one must identify their target and determine whether or not it is a threat before one can make the decision to shoot. That determination is almost always made based on what we observe.

So with the weapon at the ready, the officer should be scanning with their eyes for threats. Both eyes are open and the shooter is not trying to look through his/her optics or at the front sight.

Once a threat is observed and the decision to shoot is made, the officer should **drive the weapon to the threat**, maintaining visual contact with the threat.

As the sights or optic comes up to bear on the threat the shooter applies a **smooth trigger press**, engaging the threat as many times as necessary and completing their follow through to evaluate the shot(s).

Immediately after the follow through, the officer should be scanning for additional threats, **again** by **leading with the eyes**. This technique will also help to break the tunnel vision of the officer. Should another threat be observed the process repeats...

**Lead** with your eyes, identify your threats, and then **drive** the weapon to the threat, picking up your sights/optics as the weapon comes to bear. At that point apply a **smooth trigger press**.

Just as when presenting or drawing the handgun, driving or presenting the rifle to bear on the threat should be accomplished as quickly, and efficiently as possible. It is **ONLY** when **pressing the trigger** that the officer should be making a concentrated effort to apply a smooth steady pressure to the rear...thus **allowing**, NOT making, the shot go off.

The following series of images shows the above technique in sequence:



*#1 Officer is searching with muzzle depressed, both eyes open, finger indexed, safety ON*



*#2 Officer determines that the target is a threat. Safety OFF, finger on trigger, rifle brought up to cheek, optic is picked up, target is engaged*



*#3 Officer has evaluated the first target and begins to scan for additional threats. Safety is back ON, finger is indexed, both eyes open and scanning*



*#4 Officer has located a new threat and drives the weapon to the threat.*



*#5 Officer has made the decision to shoot. The safety comes OFF, finger moves to the trigger, weapon comes up to a cheek weld and the officer picks up his optic. Target is engaged.*



*#6 Officer confirms that the last target is down and then continues to scan for additional threats. Safety is back ON, finger is indexed.*

### **TARGET ANALYSIS**

Target analysis is the process of observing the results of the marksmanship performance on the target and interpreting the probable causes, or confirming the actual causes, by the size and location of the group and by the pattern of the shot holes.

Although shooter error will be the primary cause of unexpected results on the target, it is possible that the equipment being used is in need of attention. Rifles and ammunition should always be checked for accuracy before attempting target analysis with a view to shooter correction.

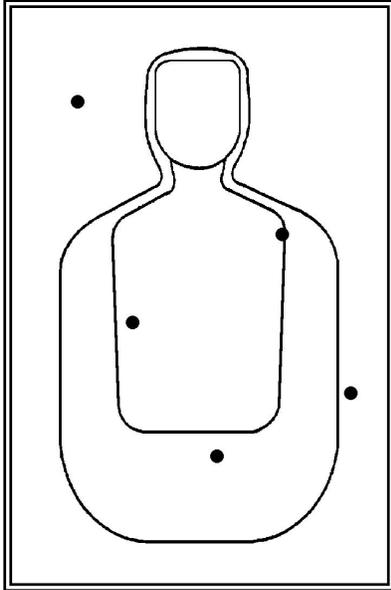
It is very difficult to analyze a target until the student has demonstrated the ability to consistently shoot an acceptably sized group. What constitutes an acceptable group will depend on the level of training of the student and the distance from the target. For practical -purposes, for a new student shooting prone at 100 yards, any group that measures less than five to six inches across would be acceptable.

It is also pointless to make sight adjustments with a view to zeroing the rifle if the student is not consistently shooting acceptable groups. The only exception to this would be sight adjustments to bring the shots on to paper.

Before attempting to analyze the target the coach should have carefully monitored the student's execution of the marksmanship fundamentals while that target is being shot. Observed errors in the application of marksmanship fundamentals will be confirmed to both coach and student by the target. Some unobserved errors may become apparent.

There is nearly always more than one reason for any shot, group of shots, or pattern of shots, that do not impact where the shooter intended. The following examples will serve as a guide to rifle target analysis but must be used with caution.

## SEEMINGLY RANDOM SHOTS SCATTERED AROUND THE TARGET

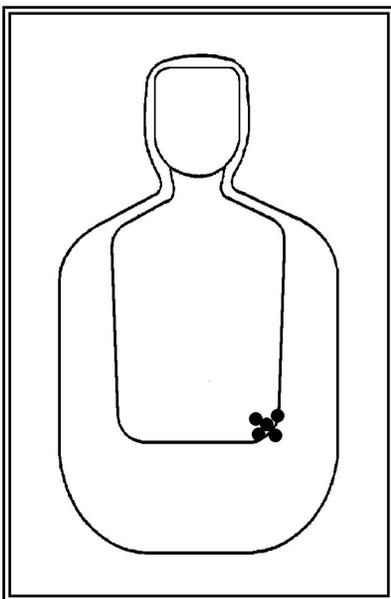


Inconsistency is probably this shooter's primary problem. This is a typical target shot by an inexperienced rifleman. All the fundamentals need to be closely observed. The coach should specifically watch for the shooter moving the body around between each shot (inconsistent shooting position), lifting the head up off the stock between shots (inconsistent stock weld / lack of follow through), an unnatural point of aim, inconsistent sight alignment/sight picture, inconsistent trigger manipulation, flinching.

This target may also be an indication that the rifle barrel is becoming shot out, that the rifle badly needs cleaning, that there may be a problem with the ammunition or that the sights may be loose.

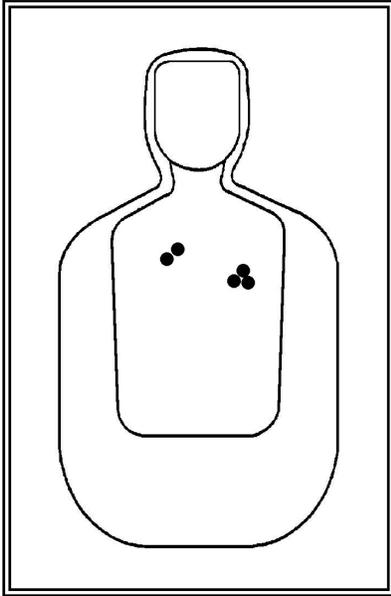
**QUICK CHECK: TRIGGER CONTROL - SIGHT ALIGNMENT - FOLLOW THROUGH - NATURAL POINT OF AIM - POSITION - RIFLE - AMMUNITION**

## AN ACCEPTABLE GROUP IMPACTED AWAY FROM THE POINT OF AIM



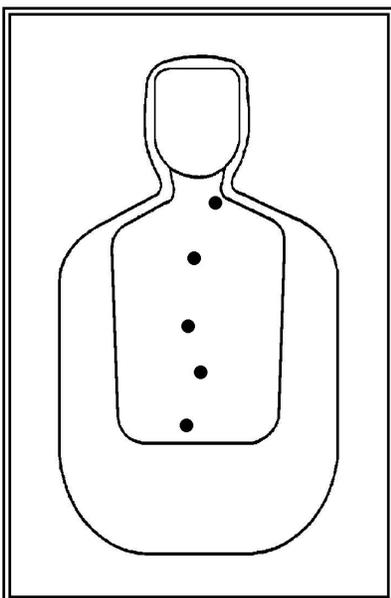
This target will often be incorrectly analyzed as a basic marksmanship fundamental error. However, it is highly unlikely that a shooter will be able to shoot a group that is this tight while consistently repeating some major error in marksmanship fundamentals. The most likely analysis of this target is that the sights are incorrectly adjusted. It could be that the rifle is just not zeroed or the shooter has failed to compensate for wind, light, range change, or a different ammunition lot. It may also be worth checking the shooter's firing position and natural point of aim.

**QUICK CHECK: SIGHT SETTINGS – AMMUNITION**

**TWO DISTINCTLY SEPARATE GROUPS ON THE TARGET**

This shooter has changed position or natural point of aim during the string of fire. This is most often seen after reloading or clearing a malfunction, especially when the shooter takes the butt of the rifle out of the shoulder or moves out of position to accomplish manipulation of the rifle. This may also be an indication that the shooter was in a bad position when starting to shoot and made a major position change after two or three shots.

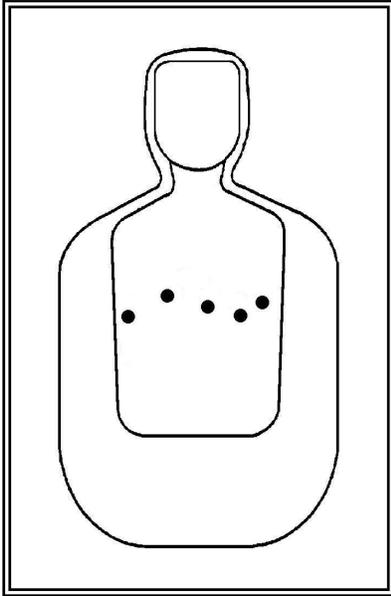
**QUICK CHECK: POSITION - NATURAL POINT OF AIM**

**SHOTS STRUNG VERTICALLY UP AND DOWN ON THE TARGET**

This may have been caused by the shooter breathing while shooting or holding different amounts of air in the lungs for each shot. A different stock weld for each shot, the butt slipping progressively further down in the shoulder or the elbows sliding outward in the prone and sitting positions may account for this. It is also possible that the sights were improperly aligned vertically from shot-to-shot.

If none of the above seems to apply, it would be worth checking the tension of the elevation sight adjustment knob to be sure that the rear sight is not loose and running up and down under recoil.

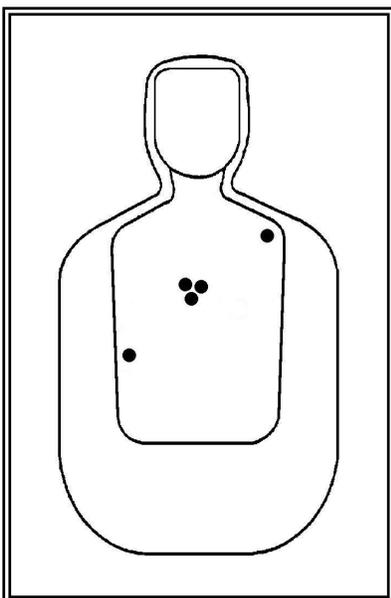
**QUICK CHECK: BREATHING - LOOSE POSITION - LOOSE SIGHT ASSEMBLY**

**SHOT GROUP STRUNG OUT HORIZONTALLY ON THE TARGET**

This is probably the result of the shooter muscling the rifle on to the target because of poor natural point of aim. It could also be caused by canting the rifle differently from shot-to-shot. Possibly the shooter was using an incorrect, and different, alignment of the front sight post (from left to right) in the rear sight aperture from shot-to-shot.

If either the front or rear sights have a dovetail fitting, that sight could be loose in the dovetail and be slipping sideways to a different position during recoil.

***QUICK CHECK: NATURAL POINT OF AIM -  
CANTING - LOOSE SIGHT ASSEMBLY***

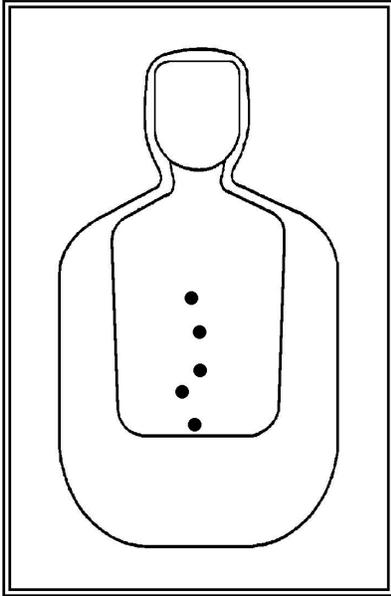
**AN ACCEPTABLE GROUP BUT WITH ONE OR MORE FLYERS**

This shooter may be flinching or jerking the trigger intermittently and the resultant shots could go anywhere. This lack of consistent concentration and mental discipline may be caused by an outside source such as hot flying brass or muzzle blast from another shooter.

The shooter may be bucking some of the shots. Bucked shots (right handed shooter) will normally appear on the target from around seven to ten o'clock.

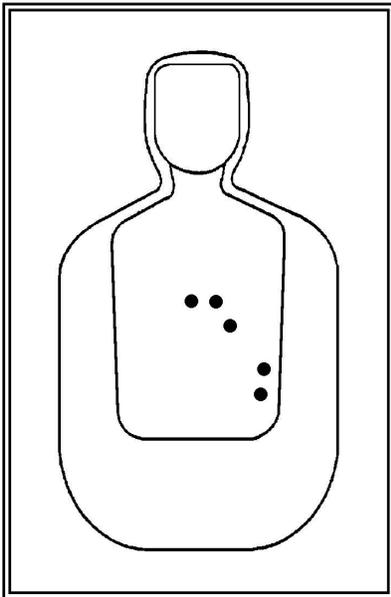
Intermittent binding in the rifle action can also cause the occasional erratic flyer. Check this by benching the rifle.

***QUICK CHECK: INTERMITTENT FLINCHING -  
JERKING - BINDING RIFLE ACTION***

**SHOTS STRUNG FROM CENTER TO THE BOTTOM OF THE TARGET**

The shooting position has probably changed, shot to, shot, during the string of fire. Check for a loose sling that has slid down the arm while firing or the rifle butt slipping in the shoulder after each shot. Look also for the elbows moving out under recoil in prone and sitting which will change the shooting position shot to shot.

**QUICK CHECK: LOOSE SLING - POSITION MOVING UNDER RECOIL**

**SHOTS STRUNG OUT LOW AND RIGHT ON THE TARGET**

Prone position:

Left elbow may not have been under rifle causing muscle tension rather than solid bone support. The sling may have been loose or the right elbow may have slipped as the string of shots was fired.

Sitting position:

The elbows may be incorrectly placed. Under recoil the left elbow may be slipping down the left leg or the right elbow may be slipping.

Prone or sitting position.

Improper trigger control in either of these positions.

**QUICK CHECK: BONE SUPPORT - TRIGGER CONTROL - POSITION MOVING UNDER RECOIL**